



UNIVERSITY
OF
JOHANNESBURG

PROGRAM : **BACCALAUREUS TECHNOLOGIAE:**
Town and Regional Planning

SUBJECT : **ENVIRONMENTAL STUDIES IV**

CODE : **ENS 431**

DATE : **SUMMER SSA EXAMINATION 2014**
4 DECEMBER 2014

DURATION : **(SESSION 1) 08:00 - 11:00**

WEIGHT : **50: 50**

TOTAL MARKS : **100**

ASSESSOR : **MR J OKAFOR**

MODERATOR : **DR. H. WEICHERS**

NUMBER OF PAGES : **3 PAGES**

INSTRUCTIONS

1. THIS IS NOT AN OPEN BOOK.
2. READ THE QUESTIONS CAREFULLY.
3. WRITE NEATLY AND LEGIBLY.
4. PLEASE ANSWER ALL QUESTIONS.
5. BE CONCISE, LOGICAL AND COHERENT

QUESTION 1:

You are approached by a developer in the Johannesburg-area, outside the urban edge, to develop a wedding venue. The Red Data specialist study indicated that a category A3 Red Data Plant species was found on site.

- 1.1 What does the rank A3 mean in terms of the Gauteng Red Data policy? (2)
- 1.2 What is a buffer zone? (2)
- 1.3 Which buffer zone would you propose for this plant? Why? (3)
- 1.4 What is meant by *in situ* or *ex situ* conservation? (2)
- 1.5 Will you conserve the plant *in situ* or *ex situ*? Provide 1 reason for your answer. (2)
- 1.6 Name and discuss 2 Categories of Red Data Plant species. (4)

subtotal: [15]

QUESTION 2:

- 2.1 **The town council owns a property on a Class 1 ridge and they would like to establish a township on the ridge.**
 - Write a short report on your findings.
 - Indicate and discuss what you would advise them.
 - Also indicate what process they would need to follow.
 - The council does not understand the fuss and they want you to motivate your concerns. Provide 2 reasons.

subtotal: [15]

QUESTION 6:

- 3.1 **The National Department of Housing intends to purchase land for a housing development (see map attached). The site is located outside the urban edge.**
The site is 130 ha in extent. They first want you to do a feasibility study.
 - Provide them with a written report on your findings.
 - An explanation of which features was found on site, which must be protected or may not be used.
 - A motivation on why it needs to be protected or not used. Draw a site development plan (with access roads and services infrastructure) and provide a motivation, if you think that the project will be viable and sustainable.

subtotal: [15]

QUESTION 4:

- 4.1 Discuss the earth as an **open** system. (5)
- 4.2 Explain carrying capacity and name 3 biological **ways** to control it. (5)
- 4.3 Discuss light as a physical component of the environment. (5)
- 4.4 Discuss the man as an ecological factor and influence on the artificial ecosystem. (5)
- 4.5 Define Homeostasis and discuss two energy laws. (5)

subtotal: [25]

QUESTION 5:

- 5.1 What in your view are the 5 (five) most significant environmental challenges facing Gauteng?
- 5.2 Explain EIA-SEA purpose on development and how Town Planners can promote sustainable development through this. Use practical examples as well.
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- 5 marks each **subtotal: [10]**

QUESTION 6:

- 6.1 Discuss Integrated Environmental Management (IEM).
- 6.2 Name and discuss two tools that can be used in environmental management that IEM prescribe.
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- 5 marks each **subtotal: [10]**

QUESTION 7:

- 7.1 Explain as one unit EIA, Specialist Study, EMP and what their purposes are.
- 7.2 Discuss the content of geotechnical report and how it may limit development.
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5 marks each **subtotal: [10]**

Total Marks: 100